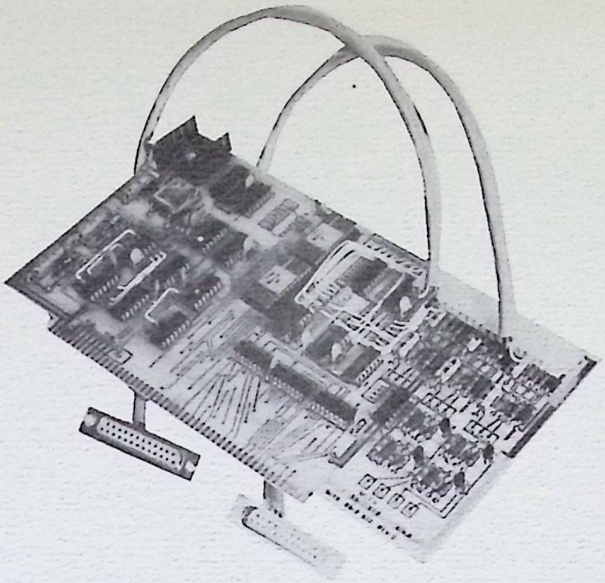
Technical Information

Serial Interface Board (88-2SIO)



The 88-2SIO Board design is based upon an Asynchronous Communications Interface Adaptor (ACIA). The ACIA contains both the control register and the status register, so that most options are software selectable.

Hardware

Level Selection: Wire jumpers.

Baud Rate Generator: Crystal-controlled CMOS divider/low power multiplexer.

Device Connection: 12 conductor cable:
- 10-pin removable connector on board
- 25-pin connector on back panel

Altair slots: One

Power:
- +5V at 520 milliamps
- +15V at 70 milliamps
- −15V at 70 milliamps

Capabilities

The 88-2SIO board has two serial input/output ports. Each port provides 5 control lines, allowing maximum utilization of sophisticated terminals.

The five control lines are:
- Transmit Data
- Receive Data
- Data Carrier Detect
- Clear to Send
- Request to Send

All lines are user selectable for ±12V levels (RS-232), TTL levels (0-5V), or 20 milliamp current loop (Teletype).

Each port is programmable for 9 or 10 bit transmission as follows:
- 7 data bits + parity bit (odd, even, or none) + 1 or 2 stop bits;
- 8 data bits + 1 or 2 stop bits;
- 8 data bits + 1 stop bit + parity bit (odd or even).

Full 8-bit Status Register provides:
- Received Data Available
- Transmitter Buffer Empty
- Carrier Detect
- Clear to Send
- Framing Error
- Received Data Overflow
- Parity Error
- Interrupt Request

The 8-bit status register allows for greater control and handshaking ability.

2SIO transmit and receive interrupts enable/disable is via software control.

Provides an on-board, crystal-controlled clock for any of 8 baud rates (with a single jumper):
- 110
- 150
- 300
- 1200
- 1800
- 2400
- 4800
- 9600

A programmable counter can provide other baud rates:
- 37.5
- 75
- 600

2SIO, with 2 ports, can interface 2 serial I/O devices, each running at a different baud rate and each using a different electrical interconnect. Thus, 2 ports can be operating entirely independently of each other (such as an RS-232 CRT terminal running at 9600 baud and a 20 milliamp Teletype running at 110 baud). 5 volt power consumption is typically 520 milliamps.

Interface levels: TTL, RS-232, TTY.

Bit Configuration: Software selectable for 7 or 8 bits, 1 or 2 stop bits, odd or even parity.

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